CONTENTS
Vol. 31, No. 1, January 1991

Beylich, A.E. **1** Dynamic and thermodynamics of spherical vapor bubbles, *VDI-Forschungsheft* **630**, pp. 1-27 (1985), Federal Republic of Germany.

Seifert, J. and Emig, G. **29** Studies of the microstructure of porous solids by physisorption measurements, *Chemie-Ingenieur-Technik* **59**, No. 6, pp. 475–484 (1987), Federal Republic of Germany.

Gruber, U., Puppich, P., Noll, E., and Mewes, D. **42** Time-dependent behavior of the pressure in an explosion as a basis for the design of pressure vessels and apparatus, *Chemie-Ingenieur-Technik* **59**, No. 12 (1987), Federal Republic of Germany.

Costes, J., Alran, C., and Couderc, J.P. **55** Characteristics of the discharge flow from a Rushton turbine. Measurements by thermal and laser-Doppler anemometry, *Entropie* **24**, No. 140 (1988), France.

Schlumpf, J.P. and Quemeneur, F. **66** Solute-membrane interactions during the ultrafiltration of sodium alkylbenzene sulfonate, *Entropie* **24**, No. 140 (1988), France.

LeClercq-Perlat, M.N. and LaLande, M. **74** A review on the modeling of the removal of porous contaminants deposited on heat transfer surfaces, *Entropie* **24**, No. 142 (1988), France.

di Biasi, C., Continillo, G., Crescitelli, S., Russo, G., and Tufano, V. **94** Numerical simulation of induced ignition of methane-oxygen mixtures, *Revue Générale de Thermique* **23**, No. 276 (1984), France.

Kaminishi, G., Yokoyama, C., and Takahashi, S. **103** Saturated liquid densities of *n*-butane-isobutane, *n*-butane-propane, isobutane-propane, and *n*-butane-isobutane-propane, *Sekiyu Gakkaishi* **31**, No. 5 (1988), Japan.

Ikawa, T. **109** Catalytic oxidation of cyclopentadiene and cooxidation of olefins and aldehydes, *Sekiyu Gakkaishi* **31**, No. 4 (1988), Japan.

Ohshima, M., Hashimoto, I., Takamatsu, T., and Ohno, H. **119** Robust stability of model predictive control (MPC), *Kagaku Kogaku Ronbunshu* **14**, No. 4 (1988), Japan.

Hirata, A. and Hosaka, Y. **128** Biological treatment of wastewater from the washing of oil and chemical drums in a rotating biological contactor, *Kagaku Kogaku Ronbunshu* **15**, No. 2 (1989), Japan.

Hwang, K.S., Tomita, S., and O'shima, E. **134** Development of a computer-based system for synthesizing the operating procedure of a chemical plant. Organization of knowledge for plant operation, *Kagaku Kogaku Ronbunshu* **14**, No. 6 (1988), Japan.

CONTENTS
Vol. 31, No. 1, January 1991

Beylich, A.E. **1** Dynamic and thermodynamics of spherical vapor bubbles, *VDI-Forschungsheft* **630**, pp. 1-27 (1985), Federal Republic of Germany.

Seifert, J. and Emig, G. **29** Studies of the microstructure of porous solids by physisorption measurements, *Chemie-Ingenieur-Technik* **59**, No. 6, pp. 475–484 (1987), Federal Republic of Germany.

Gruber, U., Puppich, P., Noll, E., and Mewes, D. **42** Time-dependent behavior of the pressure in an explosion as a basis for the design of pressure vessels and apparatus, *Chemie-Ingenieur-Technik* **59**, No. 12 (1987), Federal Republic of Germany.

Costes, J., Alran, C., and Couderc, J.P. **55** Characteristics of the discharge flow from a Rushton turbine. Measurements by thermal and laser-Doppler anemometry, *Entropie* **24**, No. 140 (1988), France.

Schlumpf, J.P. and Quemeneur, F. **66** Solute-membrane interactions during the ultrafiltration of sodium alkylbenzene sulfonate, *Entropie* **24**, No. 140 (1988), France.

LeClercq-Perlat, M.N. and LaLande, M. **74** A review on the modeling of the removal of porous contaminants deposited on heat transfer surfaces, *Entropie* **24**, No. 142 (1988), France.

di Biasi, C., Continillo, G., Crescitelli, S., Russo, G., and Tufano, V. **94** Numerical simulation of induced ignition of methane-oxygen mixtures, *Revue Générale de Thermique* **23**, No. 276 (1984), France.

Kaminishi, G., Yokoyama, C., and Takahashi, S. **103** Saturated liquid densities of *n*-butane-isobutane, *n*-butane-propane, isobutane-propane, and *n*-butane-isobutane-propane, *Sekiyu Gakkaishi* **31**, No. 5 (1988), Japan.

Ikawa, T. **109** Catalytic oxidation of cyclopentadiene and cooxidation of olefins and aldehydes, *Sekiyu Gakkaishi* **31**, No. 4 (1988), Japan.

Ohshima, M., Hashimoto, I., Takamatsu, T., and Ohno, H. **119** Robust stability of model predictive control (MPC), *Kagaku Kogaku Ronbunshu* **14**, No. 4 (1988), Japan.

Hirata, A. and Hosaka, Y. **128** Biological treatment of wastewater from the washing of oil and chemical drums in a rotating biological contactor, *Kagaku Kogaku Ronbunshu* **15**, No. 2 (1989), Japan.

Hwang, K.S., Tomita, S., and O'shima, E. **134** Development of a computer-based system for synthesizing the operating procedure of a chemical plant. Organization of knowledge for plant operation, *Kagaku Kogaku Ronbunshu* **14**, No. 6 (1988), Japan.

Yamazaki, R., Sugioka, R., Ando, O., and Jimbo, G. **146** Minimum velocity for fluidization of an inclined fluidized bed, *Kagaku Kogaku Ronbunshu* **15**, No. 2 (1989), Japan.

Kim, L.H., Park, I.J., Choi, C.K., and Lee, J.D. **153** The onset of natural convection in an electrolyte solution, *Hwahak Konghak* **26**, No. 5 (1983), Republic of Korea.

Veselý, V., Hartman, M., Čársky, M., and Svoboda, K. **161** Separation of a binary mixture of particles in a fluidized layer by the use of a perforated grid, *Chemický Průmysl* **38**(63), No. 3 (1988), Czechoslovakia.

Rugina T., Sacarescu, L., and Gaspar, M. **167** Liquid-vapor equilibria for the binary systems $(CH_3)_3SiCl(1)$-$CH_3SiCl_2(2)$, $SiCl_4(1)$-$CH_3SiCl_3(2)$, $SiCl_4(1)$-$(CH_3)_3SiCl(2)$, *Revista de Chimie* **39**, No. 10 (1988), Romania.

He, Z., Fu, H., Zhou, X., and Han, S. **171** New types of inclined ebulliometers for the determination of activity coefficients at infinite dilution, *Ranliao Huaxue Xuebao* **17**, No. 4 (1989), People's Republic of China.

178 International Schedule of Chemical Engineering Meetings.

CONTENTS
Vol. 31, No. 2, April 1991

Märkl, H., Bronnenmeier, R., and Wittek, B. **185** The resistance of microorganisms to hydrodynamic stress, *Chemie-Ingenieur-Technik* **59**, No. 12 (1987), Federal Republic of Germany.

Möbius, D. **198** Cooperative phenomena in organized monolayers, *Zeitschrift für Physikalische Chemie Neue Folge* **154** (1987), Federal Republic of Germany.

Pisarenko, V.N. and Kafarov, V.V. **213** Problems of industrial catalysis in a fixed bed, *Itogi Nauki i Tekhniki, Seria Protsessy i Apparaty Khimicheskoi Tekhnologii* **113** (1988), Soviet Union.

Souil, J.M. and Joulain, P. **264** Energy exchange in combustion, *Revue Générale de Thermique* **22**, No. 264 (1983), France.

El Azrak, A., Peytavy, J.L., Huor, M.H., Bugarel, R., and Laurent, A. **273** The gas-phase mass transfer coefficient and interfacial area in an absorption column equipped with Glitsch valve-trays, *Entropie* **24**, No. 141 (1988), France.

Kim, S.D. and Laurent, A. **284** The state of knowledge on heat transfer in three-phase fluidized beds, *Entropie* **24**, No. 143-144 (1988), France.

Kim, C.H., Delmas, H., and Riba, J.P. **303** Liquid-solid mass transfer and axial dispersion in three-phase fluidization, *Entropie* **24**, No. 143-144 (1988), France.

Ramirez Santa-Pau, F., Trilleros Villaverde, J.A., and Otero de la Gandara, J.L. **315** Fluid dynamic aspects of liquid-gas contacting: lift tubes with packing, *Anales de Quimica, Seria A, Quimica Fisica y Quimica Tecnica* **84**, No. 2 (1988), Spain.

Nakamura, M., Ito, K., and Toyama, S. **325** Back-flow of liquid through partitions in a vertical, multistage, stirred-tank reactor, *Kagaku Kogaku Ronbunshu* **15**, No. 2 (1989), Japan.

Takase, H. and Sugimoto, M. **333** Influence of the size of agglomerate on the drainage of a packed bed of coal agglomerates, *Kagaku Kogaku Ronbunshu* **15**, No. 2 (1989), Japan.

Nakano, Y., Tsuneshige, Y., Shimizu, H., and Katou, T. **342** Control of the micropores in molecular sieving carbon (MSC) by impregnation of hydrocarbons and heat treatment, *Kagaku Kogaku Ronbunshu* **15**, No. 3 (1989), Japan.

Takase, H. and Yoshimura Y. **351** Mass transfer from a slurry adsorbent to an ion-exchange resin, *Kagaku Kogaku Ronbunshu* **15**, No. 3 (1989), Japan.

Nagahama, K., Hoshino, D., Maeda, K., and Itoh, M. **359** Vapor-liquid-solid equilibria of ternary, liquefied gas-benzene-cyclohexane systems and their application in a new process of crystallization, *Kagaku Kogaku Ronbunshu* **15**, No. 3 (1989), Japan.

Murase, T., Iritani, E., Chidphong, P., Kano, K., Atsumi, K., and Shirato, M. **370** High-speed microfiltration using a rotating, cylindrical, ceramic membrane, *Kagaku Kogaku Ronbunshu* **15**, No. 3 (1989), Japan.

Lee, K.R. **379** Absorption of carbon dioxide in water using a wetted-wick column, *Hwahak Konghak* **26**, No. 4 (1988), Republic of Korea.

387 International Schedule of Chemical Engineering Meetings.

CONTENTS
Vol. 31, No. 3, July 1991

Mersmann, A. **397** Gas-liquid reactors, *Chemie-Ingenieur-Technik* **61**, No. 2 (1989), Federal Republic of Germany.

Wasowski, T. and Blass, E. **407** The influence of the wake behind bubbles on the fluid mechanics and mass transfer in bubble columns, *Chemie-Ingenieur-Technik* **61**, No. 7 (1989), Federal Republic of Germany.

Stichlmair, J. **423** Separation of ternary mixtures by rectification, *Chemie-Ingenieur-Technik* **60**, No. 10 (1988), Federal Republic of Germany.

Villermaux, J. and Georgakis, C. **434** Current problems concerning batch reactions, *Entropie* **23**, No. 137/138 (1987), France/USA.

Kelbert, F. and Royere, C. **441** Lateral mixing and heat transfer in a rolling bed, *Entropie* **25**, No. 146/147 (1989), France.

Scirocco, V., Devienne, R., and Lebouche, M. **450** Laminar and turbulent flow of a pseudoplastic fluid in a circular conduit. Heat transfer coefficients, *Revue Générale de Thermique* **24**, No. 279 (1985), France.

Gaffie, D., Hebrard, P., and Mir, A. **460** Application of mixed modeling to problems of convective transport, *Revue Générale de Thermique* **24**, No. 280 (1985), France.

Sadakata, M., Baba, H., Sato, M., and Sakai, T. **468** Vapor-phase synthesis of ultrafine particles of SiC from a premixed SiH_4-C_2H_2 gas, *Kagaku Kogaku Ronbunshu* **15**, No. 5 (1989), Japan.

Mori, S., Haruta, T., Yamamoto, A., Yamada, I., and Mizutani, E. **475** Vibrofluidization of very fine particles, *Kagaku Kogaku Ronbunshu* **15**, No. 5 (1989), Japan.

Fukui, K. **481** Longitudinal vortices in mixed convection in a wide, horizontal, rectangular duct, *Kagaku Kogaku Ronbunshu* **15**, No. 5 (1989), Japan.

Arai, N., Kasugai, A., Hasatani, M., and Ishibashi, N. **486** Simultaneous reduction of NO_2 and CO in a heat-recirculating, fuel-lean methane-air heater, *Kagaku Kogaku Ronbunshu* **15**, No. 5 (1989), Japan.

Toyokura, K. and Ohki, K. **493** Size distribution of needle crystals of urea obtained from an MSMPR crystallizer, *Kagaku Kogaku Ronbunshu* **15**, No. 4 (1989), Japan.

Kishimoto, T., Akagi, Y., Takamatsu, T., and Shioya, S. **501** A fundamental study of wastewater treatment by a biofilm, *Kagaku Kogaku Ronbunshu* **15**, No. 4 (1989), Japan.

Sadakata, M., Harano, A., Yuasa, H., Sato, M., and Shigehisa, T. **508** A mechanism for the oxidation of soot deposited from the gas phase in two-stage combustion, *Kagaku Kogaku Ronbunshu* **15**, No. 4 (1989), Japan.

Higashitani, K., Yamaguchi, H., and Furukawa, S. **516** Entrainment of particles of powdered coal from a bed by an air stream, *Kagaku Kogaku Ronbunshu* **15**, No. 4 (1989), Japan.

Kitazato, H., Asaoka, S., and Iwamoto, H. **523** Catalytic cracking of hydrocarbons from microalgae, *Sekiyu Gakkaishi* **32**, No. 1 (1989), Japan.

Varga, K. **530** Physical background of mathematical models used in the design of catalysts and reactors, *Magyar Kémikusok Lapja* **44**, No. 12 (1989), Hungary.

Blickle, T. **541** Systems, models, and algorithms in chemical engineering, *Magyar Kémikusok Lapja* **44**, No. 12 (1989), Hungary.

Cuptor, I. **553** Design of condensers for a mixture of vapors in the pressure of gases which are uncondensable in a vacuum, *Revista de Chimie* **39**, No. 9 (1988), Romania.

Sieniutycz, S. **564** The Hamiltonian tensor for energy and momentum in the extended thermodynamics of a single-component fluid, *Inzynieria Chemiczna i Procesowa* **9**, No. 4 (1988), Poland.

578 International Schedule of Chemical Engineering Meetings.

CONTENTS
Vol. 31, No. 4, October 1991

Quest, S. and Mewes **589** Mass transfer in tubular reactors, *VDI-Forschungsheft* **645** (1988), Federal Republic of Germany.

Tsotsas, E. and Martin H. **629** Heat transfer between a wall and gas-solid dispersed systems, *Chemie-Ingenieur-Technik* **61**, No. 9 (1989), Federal Republic of Germany.

Geisler, R., Mersmann, A., and Voit, H. **642** Macro- and micromixing in stirred tanks, *Chemie-Ingenieur-Technik* **60**, No. 12 (1988), Federal Republic of Germany.

Klenke, W. **654** Useful work, exergy, and thermodynamic potentials, *Forschung im Ingenieurwesen* **24**, No. 4 (1988), Federal Republic of Germany.

Brechling, J. **661** Mathematical modeling of turbulent flows at small Reynolds numbers, *Technische Mechanik* **9**, No. 2 (1988), German Democratic Republic.

Flamant, G., Fatah, N., Steinmetz, D., Murachman, B., and Laguerie, C. **673** High-temperature velocity and porosity at minimum fluidization. Critical analysis of experimental results, *Entropie* **25**, No. 146–147 (1989), France.

Kotter, M. and Lintz, H.-G. **685** Selective catalytic reduction of nitrogen oxides—an original concept, *Entropie* **23**, No. 137–138 (1987), France.

Lauriat, G. **693** The effects of radiation on natural convection, *Revue Générale de Thermique* **22**, No. 264 (1983), France.

Kawasaki, K., Matsuda, A., Ide, T., and Murase, T. **701** Conditioning of excess activated sludge by freezing and thawing. Changes in the settling characteristics of the sludge floc, *Kagaku Kogaku Ronbunshu* **16**, No. 1 (1990), Japan.

Malecký, M., Marek, M., Kubíček, K., and Schöngut, J. **708** Mathematical modeling of an adsorption column with thermal regeneration, *Chemický Průmysl* **38**(63), No. 4 (1988) Czechloslovakia/Soviet Union.

Kocurek, J. and Hartman, M. **715** Fluidizing characteristics of cellulosic wastewater sludge, *Chemický Průmysl* **38**(63), No. 6 (1988), Czechloslovakia.

Kadlecová, J. **720** The use of semiconductors in the analysis of solutions, *Chemický Průmysl* **38**(63), No. 7 (1988), Czechoslovakia.

Xu, X., Li, S., Wang, B., and Ma, R. **728** Simulation of thermally coupled distillations with two liquid phases, *Huagong Xuebao*, No. 1 (1989), People's Republic of China.

Wroński, S., Molga, E., Bugaj, M., and Drob, C. **737** Use of dynamic filters to wash impurities out of suspensions obtained by precipitation, *Inzynieria i Aparatura Chemiczna*, No. 6 (1986), Poland.

744 Index of authors, Volume 31, Nos. 1, 2, 3, and 4 (1991).

748 Contents, Volume 31, Nos. 1, 2, 3, and 4 (1991).

754 Erratum

755 International Schedule of Chemical Engineering Meetings.